

In re Application of

Serial No. 09/829,073

Filed: April 9, 2001

:
 :
 :
 :
 :
 : **Group Art Unit: 1641**
 :
 : **Examiner: Lisa V. Cook**

For: HUMAN ZONA PELLUCIDA PROTEIN 3 AND USES THEREOF

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Honorable Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In accordance with the provisions of 37 C.F.R. 1.56, 1.97 and 1.98, the attention of the Patent and Trademark Office is hereby directed to the documents listed on the attached form PTO-1449. It is respectfully requested that the documents be expressly considered during the prosecution of this application, and that the documents be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

In accordance with 37 C.F.R. § 1.97(g) and (h), the filing of this IDS should not be construed as a representation that a search had been made or that information cited is, or is considered to be, material to patentability as defined in 37 C.F.R. § 1.56 (b), or that any cited document listed or attached is (or constitutes) prior art. Unless otherwise indicated, the date of publication indicated for an item is taken from the face of the item, and Applicant reserves the right to prove that the date of publication is in fact different.

The references listed on Sheets 1 through 9 of Form PTO-1449 were cited by or submitted to the U.S. Patent and Trademark Office in parent application Serial No. 09/252,828, filed February 19, 1999, which is relied upon for an earlier filing date under 35 USC § 120.

Serial No. 09/829,073

Copies of these references are not attached under 37 CFR 1.98(d).

Please charge the \$180.00 fee pursuant to 37 CFR § 1.17(p) to Deposit Account No. 08-0219. The Commissioner is authorized to charge any deficiency in any fees pursuant to 37 CFR § 1.17 associated with this communication and to credit any excess payment to Deposit Account No. 08-0219.

Respectfully submitted,

WILMER CUTLER PICKERING HALE AND DORR LLP

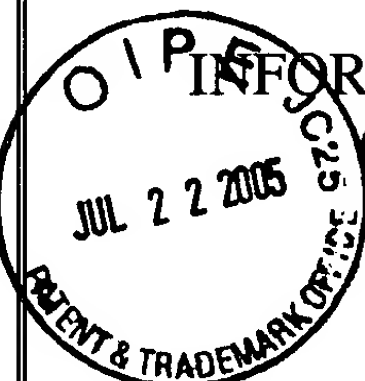


Belinda M. Lew, Ph.D.
Registration No. 53,212

1455 Pennsylvania Avenue, NW
Washington, DC 20004
TEL 202.942.8400 HNW/BML/srg
FAX 202.942.8484
Date: JULY 22, 2005

INFORMATION DISCLOSURE CITATION IN AN APPLICATION (PTO-1449)				ATTY. DOCKET NO. 113019.179US2		SERIAL NO. 09/829,073	
				APPLICANT Ke-Wen DONG et al.			
				FILING DATE April 9, 2001		GROUP 1641	
U.S. PATENT DOCUMENTS							
EXAMINER'S INITIALS	PATENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE	
	2002/0172982 A1	11/21/02	Dong et al.			02/19/99	
	2003/0148930	8/7/03	Chi et al.			8/1/02	
	4,399,216	8/16/83	Axel et al.			2/25/80	
	4,634,665	1/6/87	Axel et al.			8/11/83	
	4,861,718	8/29/89	Hirata et al.			9/27/85	
	4,889,803	12/26/89	Revel et al.			4/26/85	
	4,960,704	10/2/90	Ingolia et al.			5/31/88	
	5,034,322	7/23/91	Rogers et al.			4/5/89	
	5,179,017	1/12/93	Axel et al.			6/18/91	
	5,352,605	10/4/94	Fraley et al.			10/28/93	
	5,618,698	04/08/97	Lin			06/06/95	
	5,650,321	7/22/97	Levy			1/27/95	
	5,703,057	12/30/97	Johnston et al.			04/07/95	
	5,766,924	6/16/98	Levy			7/21/97	
	5,817,793	10/6/98	Levy			4/8/94	
	5,821,350	10/13/98	Huang et al.			11/1/95	
	5,851,763	12/22/98	Heym et al.			5/9/95	
	5,851,796	12/22/98	Schatz			6/7/95	
	5,851,817	12/22/98	Hardy et al.			7/19/94	
	5,888,981	3/30/99	Bujard et al.			6/7/95	
	5,891,718	4/6/99	Hobart et al.			3/27/96	
	5,922,927	7/13/99	Bujard et al.			7/21/97	
	5,925,541	7/20/99	Goldstein et al.			9/11/96	
	5,962,326	10/5/99	Shimada et al.			12/18/97	
	5,968,773	10/19/99	Hedde et al.			11/14/97	
	5,976,545	11/02/99	Harris et al.			06/07/95	
	5,981,228	11/9/99	Harris et al.			6/7/95	
	5,989,550	11/23/99	Harris et al.			6/7/95	
EXAMINER				DATE CONSIDERED			

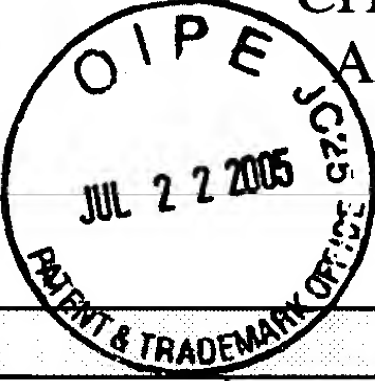
EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

 <p style="font-size: 1.2em; margin: 0;">INFORMATION DISCLOSURE CITATION IN AN APPLICATION</p> <p style="font-size: 1.2em; margin: 0;">(PTO-1449)</p>				ATTY. DOCKET NO. 113019.179US2		SERIAL NO. 09/829,073	
				APPLICANT Ke-Wen DONG et al.			
				FILING DATE April 9, 2001		GROUP 1641	
U.S. PATENT DOCUMENTS							
	6,001,599	12/14/99	Harris et al.			6/2/95	
	6,027,727	2/22/00	Harris et al.			11/9/93	
	6,132,952	10/17/00	Cohen et al.			6/1/98	
	6,264,953 B1	07/24/01	Dunbar			10/09/98	
FOREIGN PATENT DOCUMENTS							
EXAMINER'S INITIALS	PATENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
						Yes	No
	90/15624	12/27/90	WO			X	
	93/14786	8/5/93	WO			X	
	94/10304	5/11/94	WO			X	
	94/22472	10/13/94	WO			X	
	95/27206	10/12/95	WO			X	
	96/05305	2/22/96	WO			X	
	96/06113	2/29/96	WO			X	
	98/37185	8/27/98	WO			X	
	99/34825	7/15/99	WO			X	
	99/42581	8/26/99	WO			X	
	99/52544	10/21/99	WO			X	
	99/64626	12/16/99	WO			X	
	99/64627	12/16/99	WO			X	
	99/65520	12/23/99	WO			X	
	99/65928	12/23/99	WO			X	
	0488470	5/28/97	EP			X	
OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)							
	Harrison, R. G. May 25-27, 1960. "Proceedings of the Society for the Study of Fertility." <i>Annual Conference</i> . London.						
	Hartmann, John F. et al. October 1972. "Early Contact Interactions Between Mammalian Gametes <i>In Vitro</i> : Evidence That the Vitellus Influences Adherence Between Sperm and Zona Pellucida." <i>Proc. Nat. Acad. Sci. USA</i> . Vol. 69, No. 10, pp. 2767-2769.						
	O'Farrell, Patrick H. May 25, 1975. "High Resolution Two-Dimensional Electrophoresis of Proteins." <i>The Journal of Biological Chemistry</i> . Vol. 250, No. 10, pp. 4007-4021.						
EXAMINER				DATE CONSIDERED			

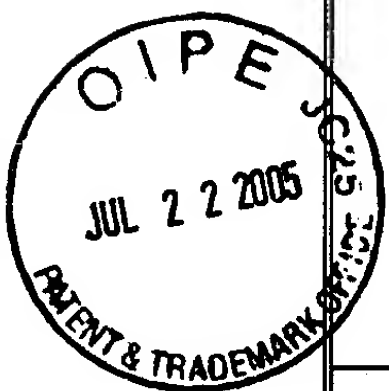
EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

<p align="center">INFORMATION DISCLOSURE CITATION IN AN APPLICATION</p> <p align="center">(PTO-1449)</p>		ATTY. DOCKET NO. 113019.179US2	SERIAL NO. 09/829,073
		APPLICANT Ke-Wen DONG et al.	
		FILING DATE April 9, 2001	GROUP 1641
OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)			
	Russell, Lonnie et al. July 1979. "Morphologic Characteristics of the Chemically Induced Acrosome Reaction in Human Spermatozoa." <i>Fertility and Sterility</i> . Vol. 32, No. 1, pp. 87-92.		
	Saling, Patricia M. et al. 1979. "An Ultrastructural Study of Epididymal Mouse Spermatozoa Binding to Zona Pellucidae in Vitro: Sequential Relationship to the Acrosome Reaction." <i>J. Exp. Zool.</i> Vol. 209, pp. 229-238.		
	Hook, Ernest B. September 1981. "Rates of Chromosome Abnormalities at Different Maternal Ages." <i>Obstetrics and Gynecology</i> . Vol. 58, No. 3, pp. 282-285.		
	Koehler, James K. 1981. "Surface Alterations During the Capacitation of Mammalian Spermatozoa." <i>American Journal of Primatology</i> . Vol. 1, pp. 131-141.		
	Yanagimachi, R. 1981. "Mechanisms of fertilization in mammals", In Mastroianni L Jr and Biggers JD (eds): <i>Fertilization and Embryonic Development In Vitro</i> . New York, Plenum Press, pp 81-182.		
	Yanagimachi, Ryuzo et al. 1981. "Sperm Autoantigens and Fertilization: II. Effects of Anti-Guinea Pig Sperm Autoantibodies on Sperm-Ovum Interactions." <i>Biology of Reproduction</i> . Vol. 24, pp. 512-518.		
	Ficsor, Gyula et al. April 1983. "Gelatin-Substrate Film Technique for Detection of Acrosin in Single Mammalian Sperm." <i>Fertility and Sterility</i> . Vol. 39, No. 4, pp. 548-552.		
	Mack, S. et al. 1983. "Acrosomal Enzymes of Human Spermatozoa Before and After In Vitro Capacitation." <i>Biology of Reproduction</i> . Vol. 28, pp. 1032-1042.		
	Hyne, R. V. et al. 1984. "Sodium Requirement for Capacitation and Membrane Fusion During the Guinea-Pig Sperm Acrosome Reaction." <i>J. Reprod. Fert.</i> Vol. 70, pp. 83-94.		
	Ward, Cynthia R. and Bayard T. Storey. 1984. "Determination of the Time Course of Capacitation in Mouse Spermatozoa Using a Chlortetracycline Fluorescence Assay." <i>Developmental Biology</i> . Vol. 104, pp. 287-296.		
	Bleil, Jeffrey D. and Paul M. Wassarman. April 1986. "Autoradiographic Visualization of the Mouse Egg's Sperm Receptor Bound to Sperm." <i>The Journal of Cell Biology</i> . Vol. 102, pp. 1363-1371.		
	Menken, Jane et al. September 26, 1986. "Age and Infertility." <i>Science</i> . Vol. 233, pp. 1389-1394.		
	Fournier-Delpech, Suzanne and Michel Courot. 1987. "Sperm - Zona Pellucida Binding Activity." <i>Oxford Reviews of Reproductive Biology</i> . Vol. 9, pp. 294-300.		
	Lee, Michael A. et al. October 1987. "Capacitation and Acrosome Reactions in Human Spermatozoa Monitored by a Chlortetracycline Fluorescence Assay." <i>Fertility and Sterility</i> . Vol. 48, No. 4, pp. 649-658.		
	Timmons, T. M. et al. 1987. "Use of Specific Monoclonal and Polyclonal Antibodies to Define Distinct Antigens of the Porcine Zona Pellucidae." <i>Biology of Reproduction</i> . Vol. 36, pp. 1275-1287.		
	Bleil, Jeffrey D. and Paul M. Wassarman. September 1988. "Galactose at the Nonreducing Terminus of O-Linked Oligosaccharides of Mouse Egg Zona Pellucida Glycoprotein ZP3 Is Essential for the Glycoprotein's Sperm Receptor Activity." <i>Proc. Natl. Acad. Sci. USA</i> . Vol. 85, pp. 6778-6782.		
EXAMINER		DATE CONSIDERED	

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

<p style="text-align: center;">INFORMATION DISCLOSURE CITATION IN AN APPLICATION</p> <p style="text-align: center;">(PTO-1449)</p> 	ATTY. DOCKET NO. 113019.179US2	SERIAL NO. 09/829,073
	APPLICANT Ke-Wen DONG et al.	
	FILING DATE April 9, 2001	GROUP 1641
OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)		
	Conover, JC and Gwatkin, RB. July 1988. "Fertilization of zona-drilled mouse oocytes treated with a monoclonal antibody to the zona glycoprotein, ZP3." <i>J. Exp. Zool.</i> Vol. 247, No. 1, pp. 113-8.	
	Shabanowitz, RB and O'Rand, MG. 1988. "Molecular changes in the human zona pellucida associated with fertilization and human sperm-zona interactions." <i>Ann. N.Y. Acad. Sci.</i> Vol. 541, pp. 621-32.	
	Cross, Nicholas L. et al. 1988. "Induction of Acrosome Reactions by the Human Zona Pellucida." <i>Biology of Reproduction.</i> Vol. 38, pp. 235-244.	
	Liu, De Yi et al. November 1988. "A Human Sperm-Zona Pellucida Binding Test Using Oocytes That Failed to Fertilize In Vitro." <i>Fertility and Sterility.</i> Vol. 50, No. 5, pp. 782-788.	
	Macek, Mary Beth and Barry D. Shur. 1988. "Protein-Carbohydrate Complementarity in Mammalian Gamete Recognition." <i>Gamete Research.</i> Vol. 20, pp. 93-109.	
	Kennedy, W.P. et al. May/June 1989. "A Simple, Clinical Assay to Evaluate the Acrosin Activity of Human Spermatozoa." <i>Journal of Andrology.</i> Vol. 10, No. 3, pp. 221-231.	
	Leyton, Lisette and Patricia Saling. June 1989. "Evidence That Aggregation of Mouse Sperm Receptors by ZP3 Triggers the Acrosome Reaction." <i>The Journal of Cell Biology.</i> Vol. 108, pp. 2163-2168.	
	Jones, R. 1990. "Identification and Functions of Mammalian Sperm-Egg Recognition Molecules During Fertilization." <i>J. Reprod. Fert., Suppl.</i> Vol. 42, pp. 89-105.	
	Von-Bernhardt, R. et al. Jan.-Feb. 1990. "Round-headed spermatozoa: a model to study the role of the acrosome in early events of gamete interaction." <i>Andrologia.</i> Vol. 22, No. 1, pp. 12-20.	
	Shabanowitz, RB. Aug. 1990. "Mouse antibodies to human zona pellucida: evidence that human ZP3 is strongly immunogenic and contains two distinct isomer chains." <i>Biol. Reprod.</i> Vol. 43, No. 2, pp. 260-70.	
	Kopf, G. S. 1990. "Zona Pellucida-Mediated Signal Transduction in Mammalian Spermatozoa." <i>J. Reprod. Fert., Suppl.</i> Vol. 42, pp. 33-49.	
	Topfer-Petersen E. et al. 1990. "Cell biology of acrosomal proteins." <i>Andrologia;</i> Vol. 22, No. 1, pp. 110-21.	
	Naz, RK et al. May 1991. "Role of membrane phosphotyrosine proteins in human spermatozoal function." <i>J. Cell. Sci.</i> Vol. 99, No. 1, pp. 157-65.	
	Koyama, K. et al. Nov. 1991. "Blocking of human sperm-zona interaction by monoclonal antibodies to a glycoprotein family (ZP4) of porcine zona pellucida." <i>Biol. Reprod.</i> Vol. 45, No. 5, pp. 727-35.	
	Yurewicz, EC et al. Oct. 1991. "Isolation, composition, and biological activity of sugar chains of porcine oocyte zona pellucida 55K glycoproteins." <i>Mol. Reprod. Dev.</i> Vol. 30, No. 2, pp. 126-34.	
	Millar, SE et al. Dec. 1991. "Oocyte-specific factors bind a conserved upstream sequence required for mouse zona pellucida promoter activity." <i>Mol. Cell. Biol.</i> Vol. 11, No. 12, pp. 6197-204.	
	Keenan, JA et al. Jan. 1991. "Endocrine response in rabbits immunized with native versus deglycosylated porcine zona pellucida antigens." <i>Biol. Reprod.</i> Vol. 44, No. 1, pp. 150-6.	
	Naz, RK et al. May 1991. "Human spermatozoal FA-1 binds with ZP3 of porcine zona pellucida." <i>J. Reprod. Immunol.</i> Vol. 20, No. 1, pp. 43-58.	
EXAMINER	DATE CONSIDERED	

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.



**INFORMATION DISCLOSURE
CITATION IN AN
APPLICATION**

(PTO-1449)

ATTY. DOCKET NO.
113019.179US2

SERIAL NO.
09/829,073

APPLICANT
Ke-Wen DONG et al.

FILING DATE
April 9, 2001

GROUP
1641

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

	Hasegawa, A. Feb. 1991. "Isolation of four major glycoprotein families (ZP1, ZP2, ZP3, ZP4) of porcine zona pellucida and characterization of antisera raised to each glycoprotein family." <i>Nippon Sanka Fujinka Gakkni Zasshi</i> . Vol. 43, No. 2, pp. 221-6.
	Oehninger, Sergio et al. January 1991. "Nature of the Inhibitory Effect of Complex Saccharide Moieties on the Tight Binding of Human Spermatozoa to the Human Zona Pellucida." <i>Fertility and Sterility</i> . Vol. 55, No. 1, pp. 165-169.
	Schwoebel, Eric et al. April 15, 1991. "Isolation and Characterization of a Full-Length cDNA Encoding the 55-kDa Rabbit Zona Pellucida Protein." <i>The Journal of Biological Chemistry</i> . Vol. 266, No. 11, pp. 7214-7219.
	Oehninger, Sergio et al. May 1991. "Recurrent Failure of In Vitro Fertilization: Role of the Hemizona Assay in the Sequential Diagnosis of Specific Sperm-Oocyte Defects." <i>Am. J. Obstet. Gynecol.</i> Vol. 164, pp. 1210-1215.
	Aarons, David et al. 1991. "Acrosome Reaction Induced by Immunoaggregation of a Proteinase Inhibitor Bound to the Murine Sperm Head." <i>Molecular Reproduction and Development</i> . Vol. 30, pp. 258-264.
	Macek, Mary Beth et al. 1991. "Aggregation of β -1, 4-Galactosyltransferase on Mouse Sperm Induces the Acrosome Reaction." <i>Developmental Biology</i> . Vol. 147, pp. 440-444.
	Mortillo, Steven and Paul M. Wassarman. 1991. "Differential Binding of Gold-Labeled Zona Pellucida Glycoproteins mZP2 and mZP3 to Mouse Sperm Membrane Compartments." <i>Development</i> . Vol. 113, pp. 141-149.
	Wassarman, Paul M. and Steven Mortillo. 1991. "Structure of the Mouse Egg Extracellular Coat, the Zona Pellucida." <i>International Review of Cytology</i> . Vol. 130, pp. 85-87.
	Dean, Jurrien. April 1992. "Biology of Mammalian Fertilization: Role of the Zona Pellucida." <i>The Journal of Clinical Investigation, Inc.</i> Vol. 89, pp. 1055-1059.
	Oehninger, Sergio. 1992. "Diagnostic Significance of Sperm-Zona Pellucida." <i>Reproductive Medicine Review</i> . Vol. 1, pp. 57-81.
	Prasher, Douglas C. et al. 1992. "Primary Structure of the <i>Aequorea Victoria</i> Green-Fluorescent Protein." <i>Gene</i> . Vol. 111, pp. 229-233.
	Rosiere, Thomas K. and Paul M. Wassarman. 1992. "Identification of a Region of Mouse Zona Pellucida Glycoprotein mZP3 That Possesses Sperm Receptor Activity." <i>Developmental Biology</i> . Vol. 154, pp. 309-317.
	Salzberger, Z. et al. 1992. "Loss of Acid Phosphatase from Rat Spermatozoa as a Method for Assessing the Acrosome Reaction." <i>Andrologia</i> . Vol. 24, pp. 155-159.
	Rhim, SH et al. Jan. 1992. "Autoimmune disease of the ovary induced by a ZP3 peptide from the mouse zona pellucida." <i>J. Clin. Invest.</i> Vol. 89, No. 1, pp. 28-35.
	Yurewicz, EC et al. Oct. 1992. "Porcine oocyte zona pellucida M(r) 55,000 glycoproteins: identification of O-glycosylated domains." <i>Mol. Reprod. Dev.</i> Vol. 33, No. 2, pp. 182-8.
	Paterson, M. et al. April 1992. "Analysis of the contraceptive potential of antibodies against native and deglycosylated porcine ZP3 in vivo and in vitro." <i>Biol. Reprod.</i> Vol. 46, No. 4, pp. 523-34.
	Tulsiani, DR et al. Jan. 1992. "Evidence for the presence of high-mannose/hybrid oligosaccharide chain(s) on the mouse ZP2 and ZP3." <i>Biol. Reprod.</i> Vol. 46, No. 1, pp. 93-100.
	Van Duin et al. 1992. "Cloning and Characterization of the Human Sperm Receptor Ligand ZP3: Evidence of a Second Polymorphic Allele with Different Frequency in the Causasian and the Japanese Populations." <i>Genomics</i> . Vol. 14, No. 4, pp. 1064-1070. XP-002108574.

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

INFORMATION DISCLOSURE
CITATION IN AN
APPLICATION

(PTO-1449)

ATTY. DOCKET NO.

113019.179US2

SERIAL NO.

09/829,073

APPLICANT

Ke-Wen DONG et al.

FILING DATE

April 9, 2001

GROUP

1641

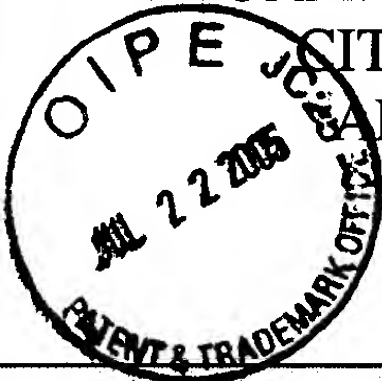
OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

- Bagavant, H. et al. Dec. 1993. "Block in porcine gamete interaction by polyclonal antibodies to a pig ZP3 beta fragment having partial sequence homology to human ZP3." *J. Reprod. Immunol.* Vol. 25, No. 3, pp. 277-83.
- Toner, James P. and Jill Taylor Flood. June 1993. "Fertility After the Age of 40." *Perimenopausal Health Care.* Vol. 20, No. 2, pp. 261-272.
- Patankar, Manish S. et al. October 15, 1993. "A Revised Structure for Fucoidan May Explain Some of Its Biological Activities." *The Journal of Biological Chemistry.* Vol. 268, No. 29, pp. 21770-21776.
- Oehninger, Sergio et al. 1993. "The Specificity of Human Spermatozoa/Zona Pellucida Interaction Under Hemizona Assay Conditions." *Molecular Reproduction and Development.* Vol. 35, pp. 57-61.
- Yurewicz, Edward C. et al. 1993. "Porcine Zona Pellucida ZP3 α Glycoprotein Mediates Binding of the Biotin-Labeled Mr 55,000 Family (ZP3) to Boar Sperm Membrane Vesicles." *Molecular Reproduction and Development.* Vol. 36, pp. 382-389.
- Yurewicz, EC et al. May 1993. "Generation and characterization of site-directed antisera against an amino-terminal segment of a 55 kDa sperm adhesive glycoprotein from zona pellucida of pig oocytes." *J. Reprod. Fertil.* Vol. 98, No. 1, pp. 147-52.
- Yurewicz, EC et al. Aug. 1993. "Nucleotide sequence of cDNA encoding ZP3 alpha, a sperm-binding glycoprotein from zona pellucida of pig oocyte." *Biochim. Biophys. Acta.* Vol. 1174, No. 2, pp. 211-4.
- Van Duin, M. et al. 1993. "The human gene for zona pellucida glycoprotein ZP3 and a second polymorphic locus are located on chromosome 7." *Cytogenet. Cell. Genet.* Vol. 63, No. 2, pp. 111-3.
- Chalfie, M. et al. Feb. 1994. "Green fluorescent protein as a marker for gene expression." *Science.* Vol. 263, No. 5148, pp. 802-5.
- Wang, Shengxian and Tulle Hazelrigg. June 2, 1994. "Implications for *bcd* mRNA Localization from Spatial Distribution of *exu* Protein in *Drosophila* Oogenesis." *Nature.* Vol. 369, pp. 400-403.
- Arts, Eugene G. J. M. et al. November 1994. "A New Method to Detect Acrosome-Reacted Spermatozoa Using Biotinylated Soybean Trypsin Inhibitor." *Fertility and Sterility.* Vol. 62, No. 5, pp. 1044-1055.
- Bielfeld, Peter et al. December 1994. "Are Capacitation or Calcium Ion Influx Required for the Human Sperm Acrosome Reaction?" *Fertility and Sterility.* Vol. 62, No. 6, pp. 1255-1261.
- Flach, Jean et al. December 1994. "A Yeast RNA-Binding Protein Shuttles Between the Nucleus and the Cytoplasm." *Molecular and Cellular Biology.* Vol. 14, No. 12, pp. 8399-8407.
- Inouye, Satoshi and Frederick I. Tsuji. 1994. "Evidence for Redox Forms of the *Aequorea* Green Fluorescent Protein." *FEBS Letters.* Vol. 351, pp. 211-214.
- Naz, RK et al. Dec. 1994. "Molecular identities of human sperm proteins that bind human zona pellucida: nature of sperm-zona interaction, tyrosine kinase activity, and the involvement of FA-1." *Mol. Reprod. Dev.* Vol. 39, No. 4, pp. 397-408.
- Bagavant, H. et al. Sep. 1994. "Antifertility effects of porcine zona pellucida-3 immunization using permissible adjuvants in female bonnet monkeys (*Macaca radiata*): reversibility, effect on follicular development and hormonal profiles." *J. Reprod. Fert.*, Vol. 102, No. 1, pp. 17-25.
- Hinsch, KD et al. Oct. 1994. "Anti-ZP3 antibodies binding to the human zona pellucida: effect of oocyte-storage conditions." *Am. J. Reprod. Immunol.* Vol. 32, No. 3, pp. 146-51.
- Wydner, KS et al. Sep. 1994. "Use of an intron polymorphism to localize the tropoelastin gene to mouse chromosome 5 in a region of linkage conservation with human chromosome 7." *Genomics.* Vol. 23, No. 1, pp. 125-31.

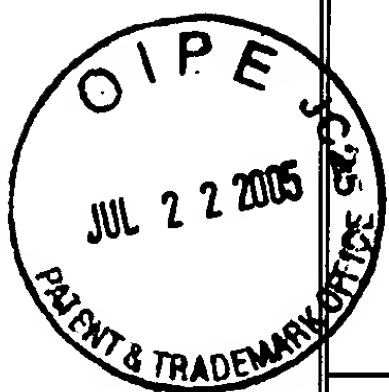
EXAMINER

DATE CONSIDERED

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

<p style="text-align: center;">INFORMATION DISCLOSURE CITATION IN AN APPLICATION (PTO-1449)</p> 	ATTY. DOCKET NO. 113019.179US2	SERIAL NO. 09/829,073
	APPLICANT Ke-Wen DONG et al.	
	FILING DATE April 9, 2001	GROUP 1641
OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)		
	Cui, KH et al. Jan. 1994. "Sex determination of preimplantation embryos by human testis-determining gene amplification." <i>Lancet</i> . Vol. 343, No. 8889, pp. 79-82.	
	Crozet, N. May 1994. "Acrosome reaction and fertilization." <i>Contracept. Fertil. Sex.</i> Vol. 22, No. 5, pp. 328-30.	
	Marshall, John et al. February 1995. "The Jellyfish Green Fluorescent Protein: A New Tool for Studying Ion Channel Expression and Function." <i>Neuron</i> . Vol. 14, pp. 211-215.	
	Henkel, Ralf et al. May/June 1995. "Acrosin Activity of Human Spermatozoa by Means of a Simple Gelatinolytic Technique: A Method Useful for IVF." <i>Journal of Andrology</i> . Vol. 16, No. 3, pp. 272-277.	
	Epifano, O. et al. Nov. 1995. "Mouse ZP1 encodes a zona pellucida protein homologous to egg envelope proteins in mammals and fish." <i>J. Biol. Chem.</i> Vol. 270, No. 45, pp. 27254-8.	
	Lou, YH et al. Oct. 1995. "Altered target organ. A mechanism of postrecovery resistance to murine autoimmune oophoritis." <i>J. Immunol.</i> Vol. 155, No. 7, pp. 3667-73.	
	Aitken, RJ et al. May 1995. "Redox regulation of tyrosine phosphorylation in human spermatazoa and its role in the control of human sperm function." <i>J. Cell. Sci.</i> Vol. 108, No. 5, pp. 2017-25.	
	Nata, K. et al. June 1995. "The structure of the Aplysia kurodai gene encoding ADP-ribosyl cyclase, a second-messenger enzyme." <i>Gene</i> . Vol. 158, No. 2, pp. 213-8.	
	Perry, Raquel L. et al. July 1995. "A Time Course Study of Capacitation and the Acrosome Reaction in Human Spermatozoa Using a Revised Chlortetracycline Pattern Classification." <i>Fertility and Sterility</i> . Vol. 64, No. 1, pp. 150-159.	
	Dell, Anne et al. October 13, 1995. "Structural Analysis of the Oligosaccharides Derived from Glycodelin, a Human Glycoprotein with Potent Immunosuppressive and Contraceptive Activities." <i>The Journal of Biological Chemistry</i> . Vol. 270, No. 41, pp. 24116-24126.	
	Kolluri, SK et al. 1995. "Nucleotide sequence of cDNA encoding bonnet monkey (<i>Macaca radiata</i>) zona pellucida glycoprotein-ZP3." <i>Reprod. Fert. Dev.</i> Vol. 7, No. 5, pp. 1209-12.	
	MacKenna, A. 1995. "Contribution of the Male Factor to Unexplained Infertility: A Review." <i>International Journal of Andrology</i> . Vol. 18, Suppl. 1, pp. 58-61.	
	Stearns, Tim. 1995. "The Green Revolution: Green Fluorescent Protein Allows Gene Expression and Protein Localization to be Observed in Living Cells." <i>Current Biology</i> . Vol. 5, No. 3, pp. 262-264.	
	Wassarman, Paul M. and Eveline S. Litscher. 1995. "Sperm—Egg Recognition Mechanisms in Mammals." <i>Current Topics in Development Biology</i> . Vol. 30, pp. 1-19.	
	Cheng, Feng-Pang et al. November/December 1996. "Use of Peanut Agglutinin to Assess the Acrosomal Status and the Zona Pellucida-Induced Acrosome Reaction in Stallion Spermatozoa." <i>Journal of Andrology</i> . Vol. 17, No. 6, pp. 674-682.	
	Morris, Howard R. et al. December 13, 1996. "Gender-Specific Glycosylation of Human Glycodelin Affects Its Contraceptive Activity." <i>The Journal of Biological Chemistry</i> . Vol. 271, No. 50, pp. 32159-32167.	
	Barros, C. et al. 1996. "Early Steps of Sperm-Egg Interactions During Mammalian Fertilization." <i>Cell Biology International</i> . Vol. 20, No. 1, pp. 33-39.	
EXAMINER	DATE CONSIDERED	

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.



INFORMATION DISCLOSURE CITATION IN AN APPLICATION (PTO-1449)		ATTY. DOCKET NO. 113019.179US2	SERIAL NO. 09/829,073
		APPLICANT Ke-Wen DONG et al.	
		FILING DATE April 9, 2001	GROUP 1641
OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)			
	Bruch, J et al. 1996. "Mapping of type I loci from human chromosome 7 reveals segments of conserved synteny on pig chromosomes 3, 9, and 18." <i>Cytogenet. Cell. Genet.</i> Vol. 73, No. 3, pp. 164-7.		
	Liu, De Yi and H.W. Gordon Baker. 1996. "A Simple Method for Assessment of the Human Acrosome Reaction of Spermatozoa Bound to the Zona Pellucida: Lack of Relationship With Ionophore A23187-Induced Acrosome Reaction." <i>Human Reproduction.</i> Vol. 11, No. 3, pp. 551-557.		
	Mortimer, David and Lynn Fraser. 1996. "Consensus Workshop on Advanced Diagnostic Andrology Techniques: ESHRE Andrology Special Interest Group." <i>Human Reproduction.</i> Vol. 11, No. 7, pp. 1463-1479.		
	Bagavant et al. 1997. "Immunogenicity and Contraceptive Potential of a Zona Pellucida 3 Peptide Vaccine." <i>Biology of Reproduction.</i> Vol. 56, No. 3, pg. 764-770; XP-002108575.		
	Oehninger, Sergio et al. March 1997. "Approaching the Next Millennium: How Should We Manage Andrology Diagnosis in the Intracytoplasmic Sperm Injection Era?" <i>Fertility and Sterility.</i> Vol. 67, No. 3, pp. 434-436.		
	Oehninger, Sergio et al. June 1997. "Clinical Significance of Human Sperm-Zona Pellucida Binding." <i>Fertility and Sterility.</i> Vol. 67, No. 6, pp. 1121-1127.		
	Carver-Ward, J. A. et al. 1997. "Genetics: Comparative Flow Cytometric Analysis of the Human Sperm Acrosome Reaction Using CD46 Antibody and Lectins." <i>Journal of Assisted Reproduction and Genetics.</i> Vol. 14, No. 2, pp. 111-119.		
	Franken, D. R. et al. 1997. "Zona Pellucida Mediated Acrosome Reaction and Sperm Morphology." <i>Andrologia.</i> Vol. 29, pp. 311-317.		
	Kohn, F. M. et al. 1997. "Detection of Human Sperm Acrosome Reaction: Comparison Between Methods Using Double Staining, Pisum Sativum Agglutinin, Concanavalin A and Transmission Electron Microscopy." <i>Human Reproduction.</i> Vol. 12, No. 4, pp. 714-721.		
	Margalit, I. et al. 1997. "A Novel Method for Evaluating the Acrosomal Status of Mammalian Spermatozoa." <i>Archives of Andrology.</i> Vol. 38, pp. 87-99.		
	Mortensen, Richard et al. 1997. "Selection of Transfected Mammalian Cells." <i>Current Protocols in Molecular Biology.</i> Pp. 9.5.1-9.5.6.		
	Shalgi, R. and T. Raz. 1997. "The Role of Carbohydrate Residues in Mammalian Fertilization." <i>Histol Histopathol.</i> Vol. 12, pp. 813-822.		
	Arkin, Shy. February 20, 1998. "Protein Glycosylation." www.bio.cam.ac.uk/~sa232/tex/MVSTIA_4-8_Shy/node13.html . Printed February 4, 1999.		
	Hansen, Jan. August 4, 1998. "NetOGlyc 2.0 Prediction Server: Center for Biological Sequence Analysis." www.cbs.dtu.dk/services/NetOGlyc/ . Printed February 4, 1999.		
	Chuang, Alex T. and Stuart S. Howards. November 1998. "Male Infertility: Evaluation and Nonsurgical Therapy." <i>Office Management of Urologic Problems.</i> Vol. 25, No. 4, pp. 703-713.		
	Greenhouse, Stephen et al. 1998. "Insights from Model Systems: Genetic Causes of Female Infertility: Targeted Mutagenesis in Mice." <i>Am. J. Hum. Genet.</i> Vol. 62, pp. 1282-1287.		
	Hansen, Jan E. et al. 1998. "NetOglyc: Prediction of Mucin Type O-Glycosylation Sites Based on Sequence Context and Surface Accessibility." <i>Glycoconjugate Journal.</i> Vol. 15, pp. 115-130.		
EXAMINER		DATE CONSIDERED	

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.



<p style="text-align: center;">INFORMATION DISCLOSURE CITATION IN AN APPLICATION</p> <p style="text-align: center;">(PTO-1449)</p>		ATTY. DOCKET NO. 113019.179US2	SERIAL NO. 09/829,073
		APPLICANT Ke-Wen DONG et al.	
		FILING DATE April 9, 2001	GROUP 1641
OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)			
	Henkel, R. et al. 1998. "Zona Pellucida as Physiological Trigger for the Induction of Acrosome Reaction." <i>Adrologia</i> . Vol. 30, pp. 275-280.		
	Irvine, D. S. 1998. "Epidemiology and aetiology of male infertility." <i>Hum. Reprod.</i> Vol. 13, No. 1, pp. 33-44.		
	Oehninger, S. et al. 1998. "Involvement of Selectin-Like Carbohydrate Binding Specificity in Human Gamete Interaction." <i>Andrologia</i> . Vol. 30, pp. 269-274.		
	Jaiswal, B.S. et al. 1999. "Detection of Partial and Complete Acrosome Reaction in Human Spermatozoa: Which Inducers and Probes to Use?" <i>Molecular Human Reproduction</i> . Vol. 5, No. 3, pp. 214-219.		
	Tsubamoto, H. et al. 1999. "Expression of recombinant human zona pellucida protein 2 and its binding capacity to spermatazoa." <i>Biol. Reprod.</i> Vol. 61, pp. 1649-54.		
	Dean, Jurien. June 24, 2000. "Maternal Effects on Folliculogenesis, Fertilization and Early Development." <i>Program & Abstracts: The Endocrine Society's 82nd Annual Meeting</i> . Oocyte Development Symposium Session.		
	Latif, R. and P. Graves. 2000. "Techniques in Thyroidology: Fluorescent Probes: Looking Backward and Looking Forward." <i>Thyroid</i> . Vol. 10, No. 5.		
	Patra, Ashok K. et al. 2000. "Refolding, Structural Transition and Spermatozoa-Binding of Recombinant Bonnet Monkey (<i>Macaca Radiata</i>) Zona Pellucida Glycoprotein-C Expressed in <i>Escherichia Coli</i> ." <i>Eur. J. Biochem.</i> Vol. 267, pp. 7075-7081.		
	Dong, Ke Wen et al. 2001. "Characterization of the Biologic Activities of a Recombinant Human Zona Pellucida Protein 3 Expressed in Human Ovarian Teratocarcinoma (PA-1) Cells." <i>Am. J. Obstet. Gynecol.</i> Vol. 184, pp. 835-844.		
	Pietrobon, Elisa O. et al. January/February 2001. "Detection of the Mouse Acrosome Reaction by Acid Phosphatase. Comparison With Chlortetracycline and Electron Microscopy." <i>Journal of Andrology</i> . Vol. 22, No. 1, pp. 96-103.		
	Esterhuizen, A.D. et al. 2001. "Clinical Importance of Zona Pellucida-Induced Acrosome Reaction and Its Predictive Value for IVF." <i>Human Reproduction</i> . Vol. 16, No. 1, pp. 138-144.		
	Zhao, Ming et al. May 2002. "Conserved Furin Cleavage Site Not Essential for Secretion and Integration of ZP3 into the Extracellular Egg Coat of Transgenic Mice." <i>Molecular and Cellular Biology</i> . Vol. 22, No. 9, pp. 3111-3120.		
	March 21, 2005. Communication from European Patent Office regarding EP 02753427.0.		
EXAMINER		DATE CONSIDERED	

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

12